ABSTRACT

The invention relates to a crystallization method for forming crystals of a substance in a solution, a suspension, or a mixture of liquids, in particular ice crystals from an aqueous solution or organic crystals from an organic melt. The method comprises the steps of crystallizing the solution to form a crystal slurry by means of cooling in a heat exchanger and feeding the crystal slurry from an outflow side of the heat exchanger to an inflow side of the heat exchanger via a recirculation duct and separating at least a part of the crystals from the liquid. A recirculation pump is included in the recirculation duct wherein the slurry is continuously supplied through the recirculation duct such that the crystals are homogeneously distributed in the duct and the heat exchanger and such that the under cooling at the outlet of the heat exchanger is the equilibrium temperature T_{eq} minus 0.5 to 0.9 times the meta-stable region ΔT_{max}.

Fig. 3